

REMARKS/ARGUMENTS

This case has been reviewed and analyzed in view of the Official Action dated 7 October 2003. Responsive to the objections and rejections made by the Examiner in the Official Action, Claims 1-10 have now been canceled from this case and Claims 11-20 have been inserted to more clearly clarify the inventive concept of the Applicant.

The Examiner has rejected Claims 1-10 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claims 1-10, however, have now been canceled from this case and Claims 11-20 have been inserted. It is believed that Claims 11-20 satisfy the requirements of 35 U.S.C. § 112, second paragraph.

The Examiner has further rejected Claim 8 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Examiner notes that the Specification fails to teach how to make the fingerprint device and how to integrate such a device with a multi-function key. Claim 8 has now been canceled from this case, however, newly-inserted Claim 20 now includes “a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard”. It is believed that Claim 20 satisfies the enablement requirement of 35 U.S.C. § 112, first paragraph, since such fingerprint identification devices are well-known in the art. A copy of U.S. Patent #6,647,133 is being submitted with this Amendment as an exemplary reference to show that such

fingerprint identification devices for allowing authorized access to a system are well-known in the art, and it is respectfully submitted that a fingerprint scanner can be incorporated into a keyboard for providing controlled access.

Prior to a discussion of the Examiner's further objections and rejections made in the outstanding Official Action, it is believed that it may be beneficial to briefly review the subject Patent Application system in light of the inventive concept of the Applicant. The subject Patent Application system is directed to a keyboard having multi-function keys. As shown in Fig. 1 of the Application Drawings, keyboard 100 includes a set of standard computer keys including a spacebar. A scroll-control-ball 201 is positioned adjacent and contiguous to the spacebar of the keyboard. This allows a user to use and activate the scroll-control-ball 201 with his or her thumbs while typing, so that the user does not have to remove his or her hands from the keyboard, thus making actuation of the scroll-control-ball 201 both more convenient and also reducing the risk of repetitive stress disorder or carpal tunnel syndrome. Additionally, multiple function keys are arranged adjacent and contiguous the spacebar and the scroll-control-ball 201 for similar reasons of convenience.

In the embodiment of Fig. 2, the scroll-control-ball 201 is replaced by a fingerprint identification device 204. This fingerprint identification device 204 allows authorized access to a computer in communication with keyboard 100.

The Examiner has rejected Claims 1, 3, and 9 under 35 U.S.C. § 102(b) as being anticipated by the Fort Patent #5,228,791. It is the Examiner's contention that the Fort reference teaches all elements of Claims 1, 3, and 9 as originally filed.

The Fort reference is directed to a bifurcated keyboard arrangement. As shown in Figs. 2a and 2b of the Drawings, the keyboard includes a standard set of computer keyboard keys 7, along with a set of function keys 9 and a numeric keypad 10 having cursor control keys. Additionally, a standard spacebar 8, 8a is provided. This reference, however, does not include a scroll-control-ball either mounted on the keyboard or even positioned separate to the keyboard. Further, the system does not include a fingerprint identification device or any other sort of identification/access means.

The system of the subject Patent Application, however, as shown in Fig. 1 of the subject Patent Application Drawings, includes a scroll-control-ball 201 positioned adjacent and contiguous to the spacebar of the keyboard 100. The positioning of the scroll-control-ball 201 allows the user to access and utilize the scroll-control-ball 201 with his or her thumbs while typing, thus allowing the use of the scroll-control-ball 201 without forcing the user to remove his or her hands from the keyboard. This provides not only convenience but also reduces the risk of repetitive stress disorder and carpal tunnel syndrome.

Further, the system of the subject Patent Application, as shown in Fig. 2, provides a fingerprint identification device 204 positioned adjacent and contiguous the spacebar.

This allows access to a computer in communication with keyboard 100 only to authorized users, thus greatly enhancing security.

Thus, the Fort reference does not provide for: "...a scroll-control-ball mounted on said computer keyboard for controlling cursor movement, said scroll-control-ball being positioned adjacent and contiguous to said spacebar...", as is clearly provided in newly-inserted Independent Claim 11. Additionally, the Fort reference does not provide for: "...a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard...", as is further provided in newly-inserted Independent Claim 20.

Thus, based upon the newly-inserted Independent Claims 11 and 20, it is not believed that the subject Application is anticipated by, or is made obvious by, the Fort reference when Independent Claims 11 and 20 are carefully reviewed.

The Examiner has additionally rejected Claim 2 under 35 U.S.C. § 103(a) as being unpatentable over the Fort reference in view of the Batio Patent #6,081,207. It is the Examiner's contention that it would have been obvious to incorporate a trackball into the keyboard in Fort since Batio suggests that a trackball with its well-known utility may be incorporated into any keyboard to add this desired function.

The Batio reference is directed to a multi-purpose, folding, portable computer. As shown in Fig. 1, the keyboard 1 is provided with a touchpad or trackball pointing device 4, a variety of macro-functions, macro-switch buttons 6, a programmable

backspace/spacebar key 7, a combination arrow-key and game pad 11, and extended Windows keys 12. As shown in Fig. 1 of the Drawings, the trackball 4 is positioned above and apart from the spacebar 7. Thus, in order to use the trackball 4, the user will have to remove his or her hands from the keys and will not be able to operate the trackball simultaneously with typing.

The system of the subject Patent Application, however, includes a scroll-control-ball 201 mounted in keyboard 100 adjacent and contiguous to the spacebar. Thus, a user may operate the scroll-control-ball 201 with his or her thumbs without removing his or her hands from the keyboard. This provides not only convenience but also reduces the risk of repetitive stress disorder or carpal tunnel syndrome.

Additionally, the Batio reference does not teach or suggest the use of a fingerprint scanning and authentication device. The system of the subject Patent Application, in the embodiment shown in Fig. 2, provides for a fingerprint identification device 204 to be positioned on the keyboard for allowing only authorized access to the computer in communication with keyboard 100.

Thus, neither the Fort reference nor the Batio reference, when taken alone or in combination, teach or suggest the use of either a trackball positioned contiguous and adjacent to the spacebar or the use of a fingerprint scanning device mounted on the keyboard.

Thus, neither the Fort reference nor the Batio reference, when taken alone or in combination, provide for: "...a scroll-control-ball mounted on said computer keyboard for controlling cursor movement, said scroll-control-ball being positioned adjacent and contiguous to said spacebar...", as is clearly provided in newly-inserted Independent Claim 11. Additionally, neither the Fort reference nor the Batio reference, when taken alone or in combination, provide for: "...a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard...", as is further provided in newly-inserted Independent Claim 20.

Thus, based upon the newly-inserted Independent Claims 11 and 20, it is not believed that the subject Application is made obvious by either the Fort reference or the Batio reference, when taken alone or in combination, when Independent Claims 11 and 20 are carefully reviewed.

The Examiner has additionally rejected Claims 4-7 under 35 U.S.C. § 103(a) as being unpatentable over the Fort reference in view of the Chou Patent #6,445,381. It is the Examiner's contention that it would have been obvious to one of ordinary skill in the art that any keyboard activatable function may be programmed onto a key.

The Chou reference is directed to a method for switching a keypad. As shown in Fig. 1 of the Drawings, a hot-key 2 is added to a keypad 1 and the hot-key 2 or a Num Lock key 3 in the keypad 1 is alternatively started by a switching program. This

reference teaches multi-function keys having programmable functions, however, it does not include the use of a trackball for controlling cursor movement. Further, the reference does not include a fingerprint identification device for controlling access to a computer in connection with the keypad.

The system of the subject Patent Application, as shown in Fig. 1 of the subject Patent Application Drawings, includes a keyboard 100 having a scroll-control-ball 201 positioned adjacent and contiguous to the spacebar. This allows the user to operate the scroll-control-ball 201 with his or her thumbs, not requiring the user to stop typing when using the scroll-control-ball. This provides both convenience to the user and also reduces the risk of repetitive stress disorder or carpal tunnel syndrome. Additionally, the embodiment of Fig. 2 provides for a fingerprint identification device 204 positioned adjacent and contiguous to the spacebar, thus allowing controlled and secure access to a computer in communication with keyboard 100.

Neither the Fort reference nor the Chou reference, when taken alone or in combination, teach or suggest the use of either a trackball mounted on a keyboard and positioned adjacent and contiguous to the spacebar, or a fingerprint scanning device mounted on the keyboard.

Thus, neither the Fort reference nor the Chou reference, when taken alone or in combination, provide for: "...a scroll-control-ball mounted on said computer keyboard for controlling cursor movement, said scroll-control-ball being positioned adjacent and

contiguous to said spacebar...”, as is clearly provided in newly-inserted Independent Claim 11. Additionally, neither the Fort reference nor the Chou reference, when taken alone or in combination, provide for: “...a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard...”, as is clearly provided by newly-inserted Independent Claim 20.

Thus, based upon the newly-inserted Independent Claims 11 and 20, it is not believed that the subject Application is made obvious by either the Fort reference or the Chou reference, when taken alone or in combination, when Independent Claims 11 and 20 are carefully reviewed.

The Examiner has additionally rejected Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over the Fort reference. It is the Examiner’s contention that one of ordinary skill in the art would recognize that it would have been obvious to use an LCD light in combination with a keyboard.

As discussed above, the Fort reference does not teach the use of either a trackball mounted on, or even in communication with, a keyboard. Further, the Fort reference does not teach or suggest the use of a fingerprint identification device.

The system of the subject Patent Application, however, as shown in Fig. 1 of the subject Patent Application Drawings, includes a scroll-control-ball 201 mounted on the keyboard 100 and positioned adjacent and contiguous to the spacebar. This allows the

user to operate the scroll-control-ball 201 with his or her thumbs, thus providing for both convenience and reducing the risk of both repetitive stress disorder and carpal tunnel syndrome. Additionally, in the embodiment of Fig. 2, a fingerprint identification device 204 is provided on the keyboard for allowing secure and controlled access to the computer communicating with the keyboard.

Thus, the Fort reference does not provide for: "...a scroll-control-ball mounted on said computer keyboard for controlling cursor movement, said scroll-control-ball being positioned adjacent and contiguous to said spacebar...", as is clearly provided in newly-inserted Independent Claim 11. Additionally, the Fort reference does not provide for: "...a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard...", as is clearly provided in newly-inserted Independent Claim 20.

Thus, based upon the newly-inserted Independent Claims 11 and 20, it is not believed that the subject Application is made obvious by the Fort reference when Independent Claims 11 and 20 are carefully reviewed.

Further, the Examiner has rejected Claim 8 under 35 U.S.C. § 103(a) as being unpatentable over the Fort reference in view of the Bault Patent #6,353,472. It is the Examiner's contention that it would have been obvious for the Bault reference to be located on any suitable surface, such as on a key of a keyboard.

The Bault reference is directed to a device for authenticating a person on the basis of his fingerprints. As shown in Fig. 1, the plastic housing 1 contains an electronic circuit connected to a fingerprint sensor 3 having a dimension smaller than that of a finger. This reference is directed to a fingerprint scanner and does not teach or suggest the use of a trackball for controlling cursor movement.

The Examiner has taken the fingerprint scanner of Bault and used it in combination with the keyboard of the Fort reference. However, neither the Bault reference nor the Fort reference teach or suggest the combination of the fingerprint scanner being placed adjacent and contiguous to the spacebar of the keyboard. In fact, as shown in Figs. 2a, 2b, and 6 of the Fort reference, there is no space provided on the keyboard to allow such placement of a fingerprint scanning device adjacent and contiguous to the spacebar.

The system of the subject Patent Application, however, as shown in the embodiment of Fig. 2, positions the fingerprint identification device 204 adjacent and contiguous to the spacebar of the keyboard 100. This allows the user to scan the fingerprint of one finger while allowing the user's other fingers to remain on the keyboard for typing. Not having to shift the user's hands to a separate device positioned away from the keyboard reduces the risk of repetitive stress disorder and carpal tunnel syndrome.

Thus, neither the Fort reference nor the Bault reference, when taken alone or in combination, provide for: "...a scroll-control-ball mounted on said computer keyboard for controlling cursor movement, said scroll-control-ball being positioned adjacent and contiguous to said spacebar...", as is clearly provided by newly-inserted Independent Claim 11. Further, neither the Fort reference nor the Bault reference, when taken alone or in combination, provide for: "...a fingerprint identification device positioned adjacent and contiguous to said spacebar for controlling access to a computer in communication with said keyboard...", as is clearly provided by newly-inserted Independent Claim 20.

Thus, based upon the newly-inserted Independent Claims 11 and 20, it is not believed that the subject Application is made obvious by either the Fort reference or the Bault reference, when taken alone or in combination, when Independent Claims 11 and 20 are carefully reviewed.

It is now believed that the remaining Claims 12-19 show patentable distinction over the prior art cited by the Examiner for at least the same reasons as those previously discussed for Independent Claims 11 and 20.

The remaining references cited by the Examiner but not used in the rejection have been reviewed, but are believed to be further removed when patentable distinctions are taken into account than those cited by the Examiner in the rejection.


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Application No. 09/900,894

Responsive to Official Action dated 7 October 2003

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,



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